

The following Listing of the Claims will replace all prior versions and all prior listings of the claims in the present application:

1.-57 (canceled)

58. (currently amended) A method of diagnosing human osteoarthritis (OA), comprising:

(a) determining a level of RNA transcripts of each gene of a set of genes consisting of: Tumour Necrosis Factor Alpha-induced Protein (TNFAIP6); Calmodulin 1 (CALM1); and Laminin, gamma 1 (LAMC1); in a cartilage sample from an individual suspected of having or being afflicted with osteoarthritis OA, and

(b) comparing said level of each of said RNA transcripts with a level of ~~expression of~~ said RNA transcripts of each gene of said set of genes in a cartilage sample from ~~one or~~ more individuals not having osteoarthritis OA,

wherein differential expression of said RNA transcripts is indicative of the disease osteoarthritis OA, said differential expression consisting of a statistically significant increase in the level of TNFAIP6 and CALM1 RNA transcripts determined in step (a) compared with the level of TNFAIP6 and CALM1 RNA transcripts, respectively, in a cartilage sample from individuals not having osteoarthritis, and a statistically significant decrease in the level of LAMC1 RNA transcripts determined in step (a) compared with the level of LAMC1 RNA transcripts in cartilage samples from individuals not having osteoarthritis.

59.-67. (canceled)

68. (Currently amended) The method of ~~any one of~~ claims 58, 60, ~~or 66~~, further comprising the step of isolating RNA from said cartilage sample from said individual suspected of having or being afflicted with OA.

69.-72. (canceled)

73. (currently amended) The method of ~~any one of~~ claims 58, 60, ~~or 66~~, wherein the step of determining said levels of said RNA transcripts of each gene of said set of genes in said cartilage sample from said individual suspected of having or being afflicted with ~~OA~~osteoarthritis, comprises hybridizing a nucleic acid sample from said cartilage sample to an array comprising a substrate and a plurality of nucleic acid members, wherein each nucleic acid member is attached to a distinct addressable location on said substrate, and wherein hybridization of said nucleic acid sample to said nucleic acid members results in a determination of said levels of said RNA transcripts.

74.-79. (cancelled)

80. (new) The method of claim 58, wherein a ratio of said level of CALM1 RNA transcripts of step (a) to the level of CALM1 RNA transcripts in said cartilage sample from said individuals not having osteoarthritis is at least 0.25% to 0.13%.

81. (new) The method of claim 58, wherein a ratio of said level of CALM1 RNA transcripts of step (a) to the level of CALM1 RNA transcripts in said cartilage sample from said individuals not having osteoarthritis is at least 0.32% to 0.13%.